

*MICROBIOLOGY
& IMMUNOLOGY
SAFETY
COMMITTEE
MEETING*

March 29th 2019

Wastewater Discharge Prohibitions Guidance

Help us meet our regulatory requirements by preventing materials with these characteristics from entering laboratory sinks.



Federal or State Regulated Hazardous Waste

Examples: Reactive, Flammable/Ignitable* (FP < 140°F), Corrosive (pH < 2.0 or > 12.5), and/or Toxic (P or U EPA Listed) Materials
 *aqueous solutions with >50% water that are less than 24% alcohol by volume are exempt



Mixtures containing controlled substances

Non-hazardous solutions that exceed MWRA discharge limits

(e.g., Mercury and other Heavy Metals, Oil and Grease > 300 mg/L, PCBs, solids that could clog piping such as pipette tips, Pesticides, (Para)formaldehyde)



Odiferous Chemicals and Dyes

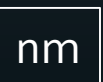
(e.g., Mercaptans or thiols)



Radioactive materials that exceed allowable limits



Biohazardous waste that has not been suitably disinfected



Nanoparticles and Materials Suspected to Bioaccumulate



Due to potential toxicity to the environment and/or human health hazards, if Section 2.2 of the SDS contains any of the following hazard statements, the material is generally prohibited from drain disposal and should be collected as waste. Contact your Lab Safety Advisor for proper disposal guidance.

H300	Fatal if swallowed	H361	Suspected of damaging fertility or the unborn child
H310	Fatal in contact with skin	H400	Very toxic to aquatic life
H330	Fatal if inhaled	H401	Toxic to aquatic life
H340	May cause genetic defects	H402	Harmful to aquatic life
H341	Suspected of causing genetic defects	H410	Very toxic to aquatic life with long lasting effects
H350	May cause cancer	H411	Toxic to aquatic life with long lasting effects
H351	Suspected of causing cancer	H412	Harmful to aquatic life with long lasting effects
H360	May damage fertility or the unborn child	H413	May cause long lasting harmful effects to aquatic life

See the EH&S website for additional information

<https://www.ehs.harvard.edu/programs/wastewater-management>



Chemical Amnesty 2019



1

Please, Please,
Please....prepare in
advance for this
event

2

This is a great time to
go through old bench
spaces, abandoned
chemicals from
previous researchers,
peoples benches that
contain legacy
materials

3

Take a look in the
back of your
flammables and
corrosives
cabinets

4

Definitely follow
my pink cap rule –
take a look at your
dry chemical
storage

5

Call me over! Lets
take a look
through your
chemicals!

6

Can get rid of
any/all chemicals,
solutions,
unknowns within
the lab without
having to tag or
submit requests

7

April
29th -
May 3rd

Everyone participating in the Amnesty will need to put red neon stickers on their items (EHS provides) and submit a registration spreadsheet 2 weeks before the event.

****NOTE – The amnesty will not happen again for another 2 years

Universal Waste Accumulation Area Signage

Universal Waste Accumulation Area

Exposed terminals or metal parts of certain batteries can rub together creating a spark, overheating, and potentially ignite a fire. Properly taping these batteries ensures safe accumulation and transit. But most batteries do NOT need to be taped.

Batteries That need to be Taped



Tape all lithium batteries with exposed terminals



Tape exposed terminals of all 9V batteries and over



Tape all lithium coin button batteries regardless their voltage

Damaged Lithium Batteries

If damaged lithium batteries are to be recycled, contact EH&S 2-1720



Most batteries do not need to be taped

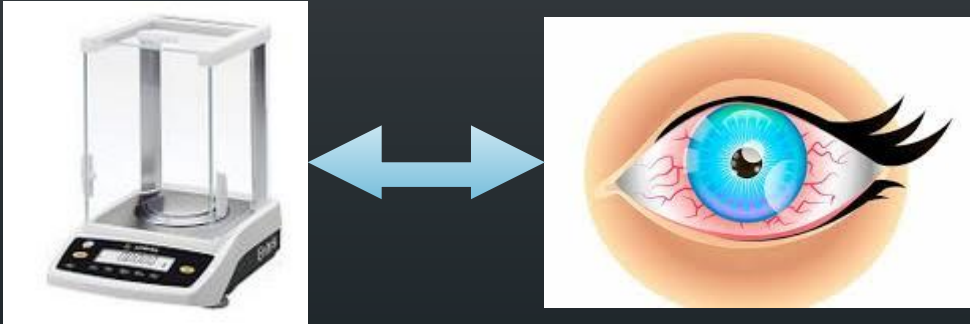


- Alkaline batteries with exposed terminals and less than 9V do not need to be taped
- Batteries with unexposed terminals and voltage greater than 9 volts—Don't need tape

If you need assistance, call HMS Call Center 617-432-1901



Incident



- Chemical exposure while weighing out ammonium persulfate
 - Researcher's eyes felt irritated after performing the procedure
 - Researcher unsure of means of exposure
 - Electrostatic issues?
 - High degree of electrostatic issues experienced during weighing are believed to have led to the exposure

Researcher's Account

A description all too familiar to anyone who has done even a fair amount of weighing

The goal was to weigh out 66mg of ammonium persulfate

- A few attempts were made using weighing paper but this proved difficult because the scale wouldn't tare. The read out was drifting and wouldn't stabilize. After this, attempts were then made using plastic weighing dishes instead of weigh paper. The compound could be seen spreading out on the surface of the plastic due to the electrostatic interaction.
- During this entire process the researcher indicated he changed out his gloves more than a couple of times. He also indicated having wiped down the table and inner scale surfaces. The researcher is confident that he never touched his eyes at any point during the procedure.
- Ocular discomfort was experienced soon after the procedure and the researcher sought medical treatment.



Polonium Containing Anti-Static Devices

- Relies on alpha particles to remove static charge
- Limited useful life
 - $t_{1/2} = 138$ days
- Spent devices **CANNOT BE THROWN AWAY** and need to be returned to the manufacturer



Polonium Anti-Static Devices



- You don't need a permit to possess/use these devices!
- Notify RSS when you purchase/receive these (or if you've got any) so that we can track it in our database
 - We are required by the state to know where radioactive material is on campus
- Let RSS know if the device is damaged or if you have any questions about radiation safety
- Notify RSS when you ship the device back to the manufacturer at the end of its life so that we can make sure it is removed from MA RCP database

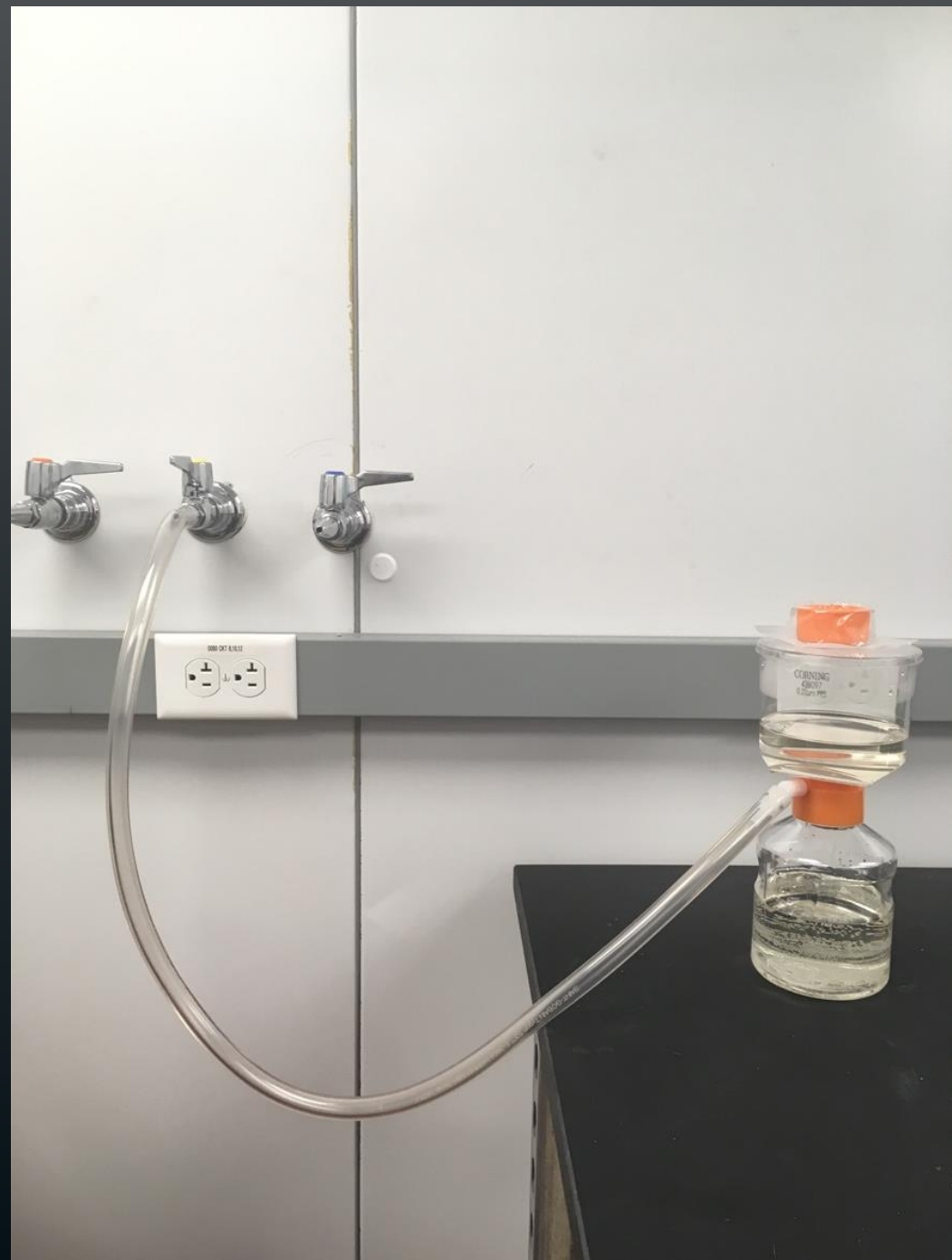
RSS Contact - Radiation_Safety@Harvard.edu

In addition to the use of Anti-Static Devices...



- Prior to Weighing
 - Wipe down the scale and surrounding area with a pre-moistened paper towel and allow surfaces to dry.
 - Have pre-moistened paper towels at the ready to clean up spills and wipe residue from scoopulas and other contaminated items.
- After Weighing
 - Be sure to wipe down the scale and the surrounding area with pre-moistened paper towels.

*What's
wrong with
this picture?*



VWR Tip Box Recycling

- Being used currently in a Genetics lab
- \$200 for 5 boxes and this includes the shipping costs
- They turn them into park benches



*Where is the
gel not
supposed to
go??*



Critters in the Lab

- If you notice critters in your lab trash, biowaste, regular trash please contact 2-1901 or the facilities email to have them send EHS Pest to investigate

Why you need to know....

Flies (or other critters) can mechanically acquire and transmit any nasties (biological, radiological, chemical)



What you can do....

The best defense is to keep the lid down - on petri dishes and the like, biowaste containers, regular trash, etc. and to keep sink drains clean.



LABORATORY EMERGENCY RESPONSE EXERCISES

*Includes biological, chemical, medical and fire
related interactive Emergency Response Exercises*

Scenario 1:

Location: Laboratory Common Area

Time: 9:55am

A researcher is setting up an experiment and goes to the acids cabinet to retrieve a bottle of hydrochloric acid. When the researcher opens the cabinet they notice a white vapor/mist and a repellent odor.

What are the Hazards?

How do you determine if you have had an exposure?

How do you protect yourself from further exposure?

Where to go if you believe you have been exposed?

What can you do about the mist/vapor/smell?

Do you reopen the cabinet to inspect?

Who do you call?



What do you say?

What's expected of your group after you call for assistance?

What potentially went wrong?

Reporting requirements?



Scenario 2:

Location: Laboratory

Time: 7:00pm

A researcher is working in the fume hood when 250mL container of glutaraldehyde slips out of the researchers hand and shatters on the fume hood surface.

What are the Hazards?

How do you determine if you have had an exposure?

How do you protect yourself from further exposure?

Where to go if you believe you have been exposed?



Can you clean up this spill?

How would you clean up this spill?

Would you call someone?



What would you say?

What's expected of your group after you call for assistance?

Reporting requirements?

